

IN THE CLAIMS

Please cancel claims 2, 4, 18, and 23-25 and amend the remaining claims as follows.

Please add the following new claims. For the Examiner's convenience, all pending claims are included below.

1. (Currently amended) A thermal interface material, comprising:
a binder material; ~~and~~
a fusible filler randomly positioned within the binder material; and
a plurality of non-fusible particles randomly positioned within the binder material.
2. (Cancelled)
3. (Currently amended) The thermal interface material of claim 21, wherein the fusible filler is pre-coated onto each of the non-fusible particles filler-prior to addition into the binder material.
4. (Cancelled)
5. (Currently amended) The thermal interface material of claim 1, wherein ~~the~~ thermal conductivity of the non-fusible particles filler is greater than ~~the~~ thermal conductivity of the fusible filler.
6. (Currently amended) The thermal interface material of claim 1, wherein the binder material is a polymer.

7. (Currently amended) The thermal interface material of claim 1, wherein the binder material acts as an adhesive.
8. (Currently amended) The thermal interface material of claim ~~1~~2, wherein the non-fusible particles ~~filler is~~are selected from the group consisting of ~~glass~~ceramic fiber, graphite fibers, carbon fibers, ~~boron nitride~~, aluminum oxides, zinc oxide, aluminum, boron nitride, silver, graphite, carbon fibers, diamond, metal coated carbon fiber, and metal coated diamond.
9. (Currently amended) The thermal interface material of claim 1, wherein the fusible filler is a solder alloy having a solidus temperature above 100° C.
10. (Currently amended) The thermal interface material of claim 1, wherein ~~the total fillers~~combined weight of the fusible filler and the non-fusible particles is in ~~the~~a range of approximately 50 - 99% by weight of the total weight of the thermal interface material.
11. (Currently amended) The thermal interface material of claim 1, wherein the fusible filler is 60 – 90% by weight of the total weight of the thermal interface material.
12. (Currently amended) The thermal interface material of claim ~~1~~3, wherein the non-fusible particles ~~filler is~~are in ~~the~~a range of approximately 5 – 49% by weight of the total weight of the thermal interface material.

13. (Currently amended) The thermal interface material of claim ~~13~~, wherein ~~the~~ a volume percent of fusible filler to non-fusible particles ~~filler can be~~ is in a range of approximately 5 – ~~100~~95 volume % fusible filler.

14. (Currently amended) ~~The~~ thermal interface material of claim ~~12~~, wherein ~~the~~ a volume percent of fusible filler to non-fusible particles ~~filler can be~~ is in a range of approximately 10 – 50 volume % fusible filler.

15. (Currently amended) The thermal interface material of claim 1, wherein the fusible filler has a melting temperature of approximately between 100 - 250° C.

16. (Currently amended) The thermal interface material of claim 1, wherein the fusible filler is stable to oxygen at temperatures up to approximately 150° C and relative humidity up to approximately 90%.

17. (Currently amended) The thermal interface material of claim 1, wherein the fusible filler is selected from the group consisting of indium ~~and tin-based solders~~ and tin based solder.

18. (Cancelled)

19. (Currently amended) The thermal interface material of claim ~~12~~, wherein a diameter for a non-fusible particle can be approximately 25 microns.

20. (Currently amended) A thermal interface material, comprising:
- a polymer binder;
 - a plurality of non-fusible particles~~-filler~~; and
 - a solder coating each of the non-fusible particles~~-filler~~, wherein each of the non-fusible particles~~-filler~~ ~~has~~have a thermal conductivity greater than a thermal conductivity of the solder coating.
21. (Currently amended) The thermal interface material of claim 20, wherein the non-fusible particles ~~-filler is~~are selected from the group consisting of metal, ceramic fibers, graphite fibers, carbon fibers, and boron nitride.
22. (Currently amended) The thermal interface material of claim 20, wherein the solder coating is selected from the group consisting of indium ~~and tin-based solders~~ and tin based solder.
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- 23-25 (Cancelled)
26. (New) The thermal interface material of claim 1, wherein the non-fusible particles comprise a plurality of irregularly shaped particles.
27. (New) The thermal interface material of claim 9, wherein the solder alloy has a solidus temperature below 250° C.

28. (New) The thermal interface material of claim 1, wherein the binding material is non-adhesive.

29. (New) A method of creating a thermal interface comprising:
- mixing a plurality of fusible filler particles into a polymer binder such that the plurality of fusible filler particles are randomly positioned within the binder material;
 - mixing a plurality of non-fusible filler particles into a polymer binder such that the plurality of non-fusible filler particles are randomly positioned within the binder material;
 - applying the polymer binder containing the fusible filler particles and the non-fusible filler particles between two or more mating components; and
 - applying heat sufficient to fuse the fusible filler particles.